THE EARLY STAGES OF *DANAIDA AFFINIS* Fabr.

By Henry Hacker, F.E.S.

(Plate IX.)

During a holiday spent on Bribie Island in January, 1922, large numbers of *Danaida affinis* were seen on the wing. By watching the females, many of which were ovipositing, good series of eggs, larvæ, and pupæ were obtained. Their food-plant, *Vincetoxicum carnosum* Benth., was found growing on the edges of salt creeks and swamps, always among reeds, to which the plants cling for support.

Eggs.—The eggs are cream-coloured, conical, with many rows of longitudinal ridges, between which are fine transverse striæ. They are deposited singly on the leaves. Compared with eggs of *D. archippus*, they are slightly more elongate, and have more pointed apices.

Larvæ.—The full-grown larvæ are smooth and cylindrical. Dorsally on the second, fifth, and eleventh segments respectively there are situated three pairs of tapering appendages, of which the basal third is red, the apical two-thirds black. Head black, shining, carrying dorsally two semicircular narrow white bands; front with a small white spot. Body with blue ground colour,[1] the lighter markings on the dorsal surface consisting of two yellow spots, and three white spots, arranged in two transverse rows, behind which are three transverse interrupted light stripes on each segment; lateral markings consist of three or four small light spots on the anterior segments, increasing to eight or ten on the others. There is also a small elongate light spot on the outer side of each thoracic leg and abdominal proleg.

Pupæ.—Short and stout, the greatest circumference being a ridge round the abdomen ornamented with a band of bead-like golden spots; there are four golden spots near the anterior end; colour pale green. The pupa is suspended by a short black stalk, from the base of which on the inner side extends a black bifurcated mark, beyond which there are a pair of small black tubercles.

The insects when about to pupate invariably attach themselves to the reed stems, instead of their feeding plants, as they afford them a stronger support.

Parasites.—A number of living pupæ were brought back to Brisbane. From several of these, Chalcid parasites emerged singly from each by cutting a

[1] In spirit specimens, or inflated skins, the blue ground colour changes to purplish red, and the yellow spots become whitish.

circular hole in the side. A. A. Girault, to whom they were submitted, states that this is a new variety of *Chalcis brisbanensis* Gir., which he is naming *Chalcis brisbanensis danaidæ*.

Distribution.—The first larvæ were obtained on Russell Island in December 1921, on the edge of a small salt-water lagoon, on the same food plant, and under similar conditions to those taken on Bribie Island. Waterhouse and Lyell give a wide range of localities for this butterfly, extending from Cape York to Sydney on the east coast; also Derby (W.A.), Darwin, Melville Island, etc. The distribution of *Vincetoxicum carnosum* coincides with that of the butterfly. Mr. C. T. White, Government Botanist, who kindly identified the plant, states:—"It has a wide range, including the islands of the Gulf of Carpentaria, Port Curtis, Moreton Island, Rockingham Bay, and extends in New South Wales to the Port Macquarie district."

EXPLANATION OF PLATE IX.

Fig. 1.—*Danaida affinis*, Fabr. Eggs × 11.

Fig. 2.—*Danaida affinis*, Fabr. Larvæ and Pupa × 1.

Fig. 3.—*Danaida affinis*, Fabr. Female ovipositing.